

# Open SFS Community Development Working Group – Bringing the Lustre Community Together

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# What is OpenSFS?

- ▶ A non-profit industry organization that supports vendor-neutral development and promotion of Lustre, an open-source file system that supports many of the world's largest and most complex computing environments.
- ▶ OpenSFS was founded by large corporate and institutional HPC users to provide single-source contracts for open source HPC file systems, especially Lustre.

# OpenSFS Organization

## Members:

- Promoters
- Adopters
- Supporters

Nonmembers:  
Participants  
Contributors  
Consultants

## Board of Directors:

- 1 per Promoter membership
- 1 elected by Adopters & Supporters

## Officers:

- President
- Secretary
- Treasurer

Technical Working Group

Community Development Working Group

Wide Area File system Working Group

Other Working Groups (as necessary)

# Community Development Working Group

- ▶ Ensure proper execution of community involvement in Lustre; creating an open forum for community discussion.
  - OpenSFS 2012 Survey
- ▶ Manage the Lustre Development Community Tree Maintenance contract.
- ▶ Advise the Board of Directors on the community's goals and perspective on Lustre.
  - Lustre Maintenance Release Plan
  - Community Lustre Roadmap

# OpenSFS 2012 Survey

- ▶ Collect information about Lustre usage across the community as input into the OpenSFS long-term support strategy
- ▶ Key findings
  - 90 people completed the survey
  - Case for adding Scientific Linux to official support matrix
  - External OFED widely used; suggests that this should be given more focus during testing
  - Only 36% of respondents have formal support arrangements in place
- ▶ Stay tuned for another survey in 2013



# Lustre Development Community Tree Maintenance contract provides a model for community development of Lustre

## Contract Activities

- Gatekeeping
- Testing
- Release Management
- Administration
- Documentation
- Dedicated testing equipment
- Feature releases, approximately every six months

## Approach

- Ensure a quality process
- Engage respected experts
- Contribute resources and funding
- Assure an open process that encourages broad participation and maintains vendor neutrality
- Guarantee a consistent level of support over a long time period

# High level release process

- ▶ Initial release planning
  - Includes meeting with developers who have proposed features to review release readiness as per feature landing guidelines
- ▶ Feature landing period
  - Gatekeeper reviews proposed features as per schedule and lands when feature landing criteria are fully met
  - Gatekeeper reviews proposed bugfix patches and lands those that meet the patch landing requirements
- ▶ Stabilization period
- ▶ Release testing
  - CDWG provides manpower/hardware resources from member organizations to facilitate the testing process
- ▶ Release logistics
  - Includes creating GA release tag
- ▶ Release cadence
  - Approximately, every six months



# The model works – 2 releases in 2012

- ▶ Lustre 2.2 (March 30, 2012)
  - Improved performance
    - Accessing object attributes (file sizes/xtime)
    - Multiple processes accessing the same directory in parallel
    - Using checksums
  - Faster recovery
  - Maximum stripe size raised from 160 to 2000
- ▶ Lustre 2.3 (October 22, 2012)
  - Object Index (OI) Scrub
    - LFCK rebuilds the OI file after MDT file-level backup/restore
  - Improved SMP performance of shared directory
  - Wide community involvement with code contributions from Bull, CEA, Cray, DDN, EMC, Fujitsu, LLNL, ORNL, TACC, Ultrascale, UVT, Whamcloud/Intel and Xyratex



# How you can help...

- ▶ Every site that uses Lustre benefits from the Community Tree contract
- ▶ Joining OpenSFS, even at the Adopter (\$50,000/year) or Supporter (\$5,000/year) levels would contribute to this effort
- ▶ Participate in the CDWG teleconferences to make your voice heard
- ▶ Test, test, test!



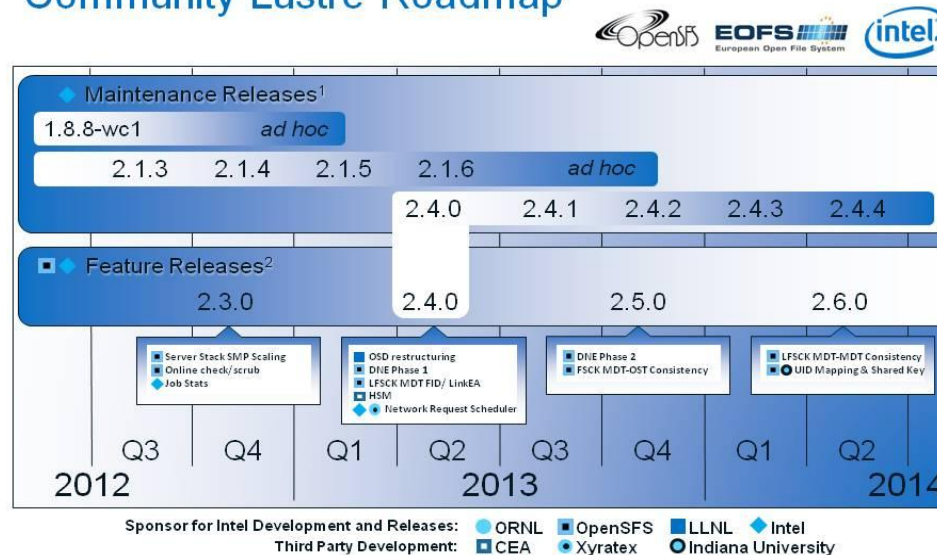
# Advising Board of Directors on community's goals and perspective

## ▶ Lustre Maintenance Release Plan

- Every third feature release, occurring every 18 months, will also be the beginning of a maintenance branch
- Next official maintenance branch will be 2.4 (end of April 2013)

## ▶ Community Lustre Roadmap

### Community Lustre Roadmap



<sup>1</sup> Maintenance releases focus on bug fixes and stability. Updates to the current version are made at 3 month intervals. Updates to past versions will be made on an ad hoc basis.  
<sup>2</sup> Feature releases focus on introducing new features. New release versions are expected at 6 month intervals. New maintenance versions from the feature release stream are anticipated at 18 month intervals.



# Get involved with the CDWG

- ▶ Join our mail list
  - <http://lists.opensfs.org/listinfo.cgi/cdwg-opensfs.org>
- ▶ Conference calls are held on alternate Wednesdays at 9am Pacific
  - Call announcements are sent to mail list
- ▶ Consider having your organization join OpenSFS!



For more information,  
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